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ABSTRACT

This study examined whether kindergarten-age children showed traditional gender role behaviors in their choice of play activities. Participating in the study were 9 boys and 11 girls, all 5 or 6 years old and attending the same kindergarten class in a middle size, suburban elementary school. Data on student choice behavior were gathered during the daily 45-minute choice time, based on observations and on interviews. It was hypothesized that a greater percentage of male participants than female participants would opt to play in those choice activities that had been determined as traditionally male (such as computers, blocks, Legos, and science table); that a greater percentage of female participants than male participants would opt to play in those choice activities that had been determined as traditionally female (such as art easel, art projects, playing with dolls, and cooking); and that similar percentages of males and females would opt to play in choice activities determined as neutral (such as listening center, library, and sand table). Findings for traditionally male activities that were consistent with the hypothesis were found for blocks, boy dress-up, and Legos. Choice patterns for all traditionally female and neutral activities were consistent with the hypotheses. (Contains 27 references.) (KB)

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Traditional Gender Role Behaviors in Kindergartners' Choice of Play Activities

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Abstract

This experiment tested whether kindergarten age children show traditional gender role behaviors in their choice of play activities. The study included 20 participants, nine males and eleven females. The independent variable was the choice center; each choice center represented a different level of the independent variable. The dependent variable was measured by the number of males and the number of females that opted to play in each choice center. It was hypothesized that a greater percentage of male participants than female participants would opt to play in those choice activities that had been determined to be traditionally male; a greater percentage of female participants than male participants would opt to play in those choice activities that had been determined to be traditionally female; and similar percentages of males and females would opt to play in those choice activities that had been determined to be neutral. Evidence to support the hypothesis was found.

Traditional Gender Role Behaviors in Kindergartners' Choice of Play Activities

From the time of birth, children are influenced by multiple biological, cultural, and cognitive factors as well as varied contexts, such as family environment, school experience, and peer relations. All of these influences shape what children come to believe and accept about their world through the creation of schemas (Trepanier-Street & Romatowski, 1999; Welsh-Ross & Schmidt, 1996). Schemas are organized patterns of behavior that people use to organize their knowledge of the social world around themes or topics. Schemas are important because they affect what information is interpreted as being significant enough for being noticed and remembered. Further, these schemas can later lead to particular actions that result from schematic thoughts. Gender role behavior is one subject in which children develop schemas to guide their thoughts and behavior (Trepanier-Street & Romatowski, 1999; Welsh-Ross & Schmidt, 1996). Children often learn at a young age which roles society typically regards as more traditionally male and which roles are seen as being more traditionally female. They begin to associate certain traits, behaviors, and objects as being more typically male or female. Through developing these gender stereotypes, children learn what is typically considered acceptable and unacceptable for males and females (Trepanier-Street & Romatowski, 1999; Welsh-Ross & Schmidt, 1996). These developing gender role schemas can be detrimental to children because they may discourage female children from attempting traditionally male roles and activities and they may discourage male children from attempting traditionally female roles and activities, even though either sex can often produce the same positive results.

Much research has been completed on the development of gender role behavior and gender stereotypes in children. Some studies have found that children begin to show sex stereotyping of toys and objects and begin choosing to play with sex appropriate toys between the time they are

18 months and two years old (Caldera & Sciaraffa, 1998; Turner & Gervai, 1995). Other studies claim that children do not start identifying with being male or female and do not differentiate between what is typical for their sex until they are at least three years old (Albers, 1998). Most studies agree that by the time children are three to four years old, they can accurately place sex stereotypical labels on common toys, activities, household tasks, and adult occupations (Huston, 1983). During this time between ages three and four, children develop preferences and behaviors based on their gender identity. Boys have been shown to prefer playing more with toy vehicles, balls, and blocks, whereas, girls have been shown to enjoy playing more with art activities, dolls, domestic items, and dressing up (Huston, 1983). Studies have shown that the differences between the play preferences of males and females can be attributed to whether the child believes the toy is gender appropriate (Albers, 1998). Finally, research has shown that by the time children are five years old, they exhibit clear signs that they expect adults to treat males and females differently depending on their gender (Muller and Goldberg, 1980). It is important to keep in mind that while these studies do suggest that all children follow certain developmental milestones as they begin to identify with their gender and develop gender stereotypes, there is considerable individual variation among and between the sexes.

In one study, Durkin and Nugent (1998) tested the existence of gender role stereotypes in four and five year old children through the use of television clips. The experimenters showed scenes to the children that portrayed the need for a variety of activities, including fix cars, be a doctor, wash clothes, and do the shopping. They then asked the children to predict who would perform the necessary activities, a man, a woman, or both. The children's responses reflected strong gender stereotyped expectations, especially for traditionally male activities, such as fix cars and be a doctor. Further, the study found that as children grew older, they tended to become more

likely to make gender stereotyped predictions. In addition, the study examined children's estimates of their own future competence in particular occupational roles and found that their estimates showed evidence of stereotypical beliefs, especially for older females rejecting traditionally male activities (Durkin & Nugent, 1998). The results of this study clearly suggest that by the time children are four or five years old, they have developed schemas to guide their beliefs about the appropriateness of certain gender roles and occupations.

In another study, Albers (1998) tested whether perceptions of preferred play activities would be consistent with the gender label of the target person's clothing. The participants included 81 five to ten year old children. The study relied on past research that has shown that articles of clothing can be identified as depicting a certain gender by their color and style. Light pastel colors, dresses, and outfits made of ribbons, bows, ruffles, lace, and flowers have been labeled by society as being more feminine. Dark colors, overalls, pants, and active sportswear have been labeled as being more masculine. In the experiment, participants were shown six photographs which portrayed a masculine-dressed, feminine-dressed, and neutrally dressed boy and girl. The participants were then shown six cards depicting different play activities--cooking, playing with dolls, doing a puzzle, reading a book, building with blocks and tools, and playing with cars and trucks. The experimenters then asked the participants which play activities they believed would be the most and least preferred for each child in the photograph. Results found, in general, that perceptions of preferred play activities were consistent with the gender label of the photographed children's clothing (Albers, 1998). This study supports the theory that children learn at a young age what is considered appropriate play activities and inappropriate play activities for males and females.

Leinbach, Hort, and Fagot (1997) expanded on previous research by exploring whether or not gender stereotypes can occur through metaphorical associations as well as conventional associations. The experimenters' idea was that children might create their gender schemas around themes or dimensions as well as through correlating particular objects or characteristics with a certain gender. The experimenters developed a Gender Stereotyping Test (GST) which included both typically masculine conventional items, such as a hammer, rifle, bat and ball; typically female conventional items, such as a needle, broom, and iron; typically male metaphorical items, such as a bear, angry, and fire; and typically female metaphorical items, such as pink, butterfly, and soft. Using the GST, results showed that four, five, and seven year old children use both conventional and metaphorical information in assigning objects and qualities to each gender. Further, the study found that the four year olds who were able to assign metaphorical items accurately had stable knowledge of their gender identity; the four year olds who did not have stable knowledge of their gender identity were not able to correctly assign metaphorical items. In addition, the study found that three year old children could not accurately assign metaphorical or conventional items to either gender accurately. This experiment provides further support for the notion that children develop gender schemas that they use in assigning preferred objects and even qualities to males and females.

Much evidence has been presented to show that young children develop gender stereotypes and exhibit gender role behaviors. The logical question that follows addresses what factors lead children to develop these gender stereotypes. Some people believe that the factors are mainly biological while others argue that the factors are primarily environmental. Most research concerning what factors influence children in developing gender stereotypes focus on the environmental factors. Perhaps this concentration on environmental factors exists because

changes can more easily be made to these influences, whereas, biological factors are difficult to manipulate. Research in this area is important and practical because as the factors that influence the development of gender stereotypes in young children are understood, more effective strategies can be created to discourage the formation of these detrimental stereotypes.

Among the primary environmental influences implicated in the development of gender stereotypes and gender role behaviors include parental behavior, school experience and teacher influence, surrounding culture, and peer relations. Much supporting evidence has been found for the role that parents play in the development of children's gender stereotypes. Researchers point out that parents often furnish their children's bedrooms with traditionally gender appropriate toys and decorations (Caldera & Sciaraffa, 1998). These traditionally gender appropriate toys have been found to foster different types of behaviors in children and parents which can lead to the acceptance of traditional gender roles and stereotypes for these children (Caldera, Huston, & O'Brien, 1989; Leaper, Leve, Strasser, & Schwartz, 1995; Leaper & Gleason, 1996).

Further, many studies have found that parents of toddlers opt to play with traditionally gender appropriate toys when engaging their children (Eisenberg, Wolchik, Hernandez, & Pasternack, 1985; Idle, Wood, & Desmarais, 1993). One study completed by Caldera and Sciaraffa (1998) investigated parents' and toddlers' initiation of play with a stuffed clown and baby dolls to test whether boys and girls were provided with the same opportunities for play. Participants included 42 parent-toddler groups from Caucasian, middle-class families. Results showed that the stuffed clown and baby dolls brought out different play behaviors from the parents and toddlers. Further, the study showed that same-sex parent-toddler groups played differently than opposite-sex parent-toddler groups. More specifically, the study found that parent-toddler groups initiated more doll appropriate play, such as caretaking and nurturing, with the baby dolls than with the

clown; mothers called attention to the baby dolls and initiated doll appropriate play most when playing with their daughters, while fathers called attention to the clown and initiated use of the dolls as inanimate objects, such as naming parts and tickling, most when playing with their sons. Caldera and Sciaraffa (1998) concluded that parents encourage children to play with traditionally gender appropriate toys through selection and also through the verbal messages that parents convey to their children during play.

In a related study, Fagot and Leinbach (1989) conducted an experiment on how parents' affective responses effected children's gender role behaviors. The children whose parents responded to their gender-typed play with strong affective reactions were able to label the gender of people in photographs earlier than the children whose parents did not respond to their gender-typed play with strong affective reactions at 18 months. At 27 months, "early labelers" showed more traditional gender role behaviors than the "non-early labelers." Further, at four years old, "early labelers" received higher scores on a test of gender-role discrimination than the "non-early labelers" received. Therefore, Fagot and Leinbach (1989) concluded that parental affective responses to children's gender-typed behavior early in life could lead to earlier development of gender role behaviors and stereotypes. In addition, studies have shown that parents of toddlers tend to react more positively to children playing in traditional gender activities and more negatively to children playing in traditionally gender inappropriate ways (Caldera et al., 1989; Eisenberg et al., 1985; Fagot, 1978; Leaper, et al., 1995; Leaper & Gleason, 1996).

Some studies have found that parents influence gender-typed play activities and toy choices more so for boys than for girls (Fagot & Hagan, 1991). In one study, Raag and Rackliff (1998) tested how children's choices of play activities were influenced by their social beliefs, such as how the children believed their parents would react to their decisions. Sixty-one preschoolers

(28 girls and 33 boys) were videotaped in a playroom where they had access to a tool set and a dish set. The tool set and dish set were introduced as being either neutral or gender-typed. The most significant finding of the study showed that boys who perceived that their fathers thought that cross-gender-typed play was "bad" played more with the tool set than with the dish set when the toys were presented as being gender-typed. In fact, none of the boys who believed their fathers felt that cross-gender-typed behavior was "bad" chose to play with the dish set when it was presented as "for girls." This study supported the finding that parents can influence their children's choices of play activities simply by exhibiting disapproval for non-traditional gender role behaviors; this finding is especially strong for the influence that fathers have on their sons' choice of play activities.

When examining the differences between the ways males and females are influenced by parents in regards to gender stereotypes, studies have shown that it is important to consider age. One study predicted a pattern for differential treatment that decreased with age, especially in disciplinary strictness and encouragement of gender role behaviors (Turner & Gervai, 1995). Another experiment designed by Fagot and Hagan (1991) studied differential socialization of males and females at 12 months, 18 months, and five years old. Results showed that parents were more likely to show sex differences in the responses to their children's sex-typed play at 18 months than at 12 months or five years (Fagot & Hagan, 1991). The aforementioned studies leave little room for doubt that parental behavior and responses significantly influence children's developing gender role behaviors and stereotypes.

In addition to the significant role that parents play in their children's developing gender stereotypes, studies have also suggested that school experience and teacher influence effect developing gender stereotypes and gender role behaviors. Hartup, Moore, and Sagar (1963)

found that the mere presence of an adult female during play activities influenced whether or not males approached toys that were seen as traditionally female. Further, Fagot (1977) discovered that teachers tended to criticize preschool age males more for playing with traditionally female objects than females playing with traditionally male objects. These studies imply that teachers can be significant influences in the development of gender stereotypes in young children.

Researchers have been working on developing strategies that teachers could use to discourage the development of gender stereotypes in their students. Some experimenters have studied whether or not young children's gender stereotypes can be modified through the use of a diverse range of children's literature. In one experiment, Scott and Feldman-Summers (1979) studied whether exposure to books that did not contain traditional gender roles could influence children's gender role thinking. The experimenters had one group of early elementary age children read books that portrayed female characters in traditionally male roles and two other groups of children who did not read books that portrayed female characters in traditionally male roles. Results showed that the children who read books that depicted females in non-stereotypic ways showed a significant increase in their views on the ability of females to participate in the same non-stereotypic activities as compared to those children who did not read the books (Scott & Feldman-Summers, 1979). In a similar study, Trepanier-Street and Romatowski (1999) tested whether or not children's gender role thinking in regards to occupational roles could be influenced through the reading of books that depicted females engaged in traditionally male occupations and males engaged in traditionally female occupations. The study found that reading books that portrayed people in non-stereotypic occupations positively influenced children's gender schemas for occupational roles (Trepanier-Street & Romatowski, 1999). This

research suggests that teachers can influence children's gender attitudes by selecting literature for the classroom that does not always depict traditional gender roles and occupations.

In addition to the influence that school experience and teachers have on the development of gender stereotypes and gender role behavior in children, peer relations have also been shown to have significant effects. In several studies, research has shown that the presence of opposite-gender peers can increase traditional gender role behavior in preschoolers (Jacklin & Maccoby, 1978; Serbin, Conner, Burkhardt, & Citron, 1979; Trautner, 1995). Further, Fagot (1977) found that males who participated in traditionally female activities faced more ridicule and criticism from peers than females who participated in traditionally male activities faced. In a related study completed by Danby and Baker (1998), experimenters observed the play of three to five year old males in the block center. Through close analysis, they found that the older, stronger males were subtly educating younger males on how to be "masculine" through the use of conversation, play, and conflict. The study concluded that "masculinity" is not a fixed personality trait, but instead it is influenced and shaped through peer reactions and guidance (Danby & Baker, 1998). All of these studies support the notion that peers can play an important role in the development of gender role behaviors and stereotypes in children.

Although most of the research completed on the influencing factors in developing gender role behaviors and stereotypes has focused on parental behavior, school experience and teacher influence, and peer relations; some attention has been given to the role that the media plays in the formation of these gender role attitudes. Studies have consistently shown that television typically portrays traditional gender role stereotypes, presenting more male characters than female characters and depicting males in a larger range of occupations than females who tend to be shown in household occupations and traditionally female occupations (Bretl & Cantor, 1988;

Craig, 1992). Because children spend a great deal of time watching television and because they are so highly impressionable, much concern has been given to the effect that television can have on children's developing gender role stereotypes. However, no conclusive evidence has been found on the role that the media plays on the development of children's gender stereotypes (Durkin & Nugent, 1998).

The present study expands on previous research by seeking to determine whether or not gender role behaviors can be seen in the choice of play activities within a particular kindergarten classroom. The study addresses whether children as young as five to six years old have been influenced by the gender stereotypes that are pervasive in society. The independent variable is the choice center; each choice center represents a different level of the independent variable. The dependent variable is measured by the number of males and the number of females that opt to play in each choice center. It is expected that children's perceived gender role stereotypes will influence whether or not they will play in a particular choice center. Therefore, it is hypothesized that a greater percentage of male participants than female participants will opt to play in those choice activities that have been determined to be traditionally male; a greater percentage of female participants than male participants will opt to play in those choice activities that have been determined to be traditionally female; and similar percentages of males and females will opt to play in those choice activities that have been determined to be neutral.

Method

Participants

This study included 20 participants, nine males and eleven females. All of the participants in this study were five to six years old and attended the same kindergarten class. The kindergarten class was situated in a middle size, suburban elementary school. The students' ethnic

backgrounds were extremely diverse: three were born in China, one was born in Russia, one was born in Germany, and one was born in Mexico. Of the remaining students, six were white and eight were African-American. In respect to socioeconomic status, most seemed to be middle class and a few seemed to be lower class. The study was conducted unobtrusively so participants did not realize that they were involved in the study.

Procedure

Step 1: The experimenter conducted several informal observations to learn about what occurred during students' choice time. The students participated in choice time for approximately 45 minutes each day. During this time, students were free to choose a play activity from a list of options. These options included computers, blocks, Legos, science table, housekeeping center, art easel, art projects, listening center, library, and sand table. (See Appendix 1 for description of choice activities)

After identifying these choice activities, the experimenter determined which of the activities would be considered more traditionally male, more traditionally female, and neutral. From prior knowledge and recent research, the experimenter concluded that the following activities would be considered traditionally male play activities for the purposes of the study: computers, blocks, Legos, and science table. Further, the experimenter concluded that the following activities would be considered traditionally female play activities for the purposes of the study: art easel, art projects, and housekeeping center. The housekeeping center was further divided up by choice options within the housekeeping center; boy dress-up was determined to be more traditionally male and girl dress-up, playing with dolls, and cooking were determined to be more traditionally female. In addition, the experimenter determined that the following activities would be

considered neutral play activities for the purposes of the study: listening center, library, and sand table.

Step 2: The experimenter conducted formal observations on eight separate days during the students' choice time. During each observation, the experimenter recorded the name of each child and the choice activity that he/she decided to play with. Because the students were allowed to switch to another play activity at any time, many of the students had several activities beside his/her name in a single observation.

Step 3: During the final three formal observations, the experimenter interviewed each child once during choice time. To find out what each child would identify as his/her favorite play activity, the experimenter asked each student, "During choice time, what is your favorite activity to play with?" The participants' responses were then recorded beside their names.

Step 4: The experimenter compiled the results from the eight formal observations by counting up how many people of each gender chose each play activity. The raw data showed the total number of males and the total number of females in all eight observations that played with each choice activity. (See Table 1) The raw numbers were then converted into percentages to show what the percentage of males was and what the percentage of females was that opted to play with each choice activity. The percentages were a compilation of data from all the times anyone chose to play with each activity and revealed which percent of the players were male and which percent of the players were female. Next, the experimenter compiled the data from the interviews by recording on a chart the number of males and the number of females who identified each choice activity as their favorite. All the data was then analyzed and a conclusion was reached.

Results

Evidence to support this experiment's hypothesis was found. Out of the five activities determined to be traditionally male, three activities had a greater percentage of males who chose to play with the activity compared to the percentage of females who chose to play with the activity. Results for traditionally male activities that were consistent with the hypothesis were found for blocks (70% males, 30% females), Legos (63% males, 37% females), and housekeeping for the boy dress-up category (100% males, 0% females). Results for traditionally male activities that were inconsistent with the hypothesis were found for computers (29% males, 71% females) and science center (50% males, 50% females). However, factors that may have confounded the results for both the computers and science center have been identified and will be addressed in the discussion.

Out of the six activities determined to be traditionally female, all of the activities had a greater percentage of females who chose to play with the activity compared to the percentage of males who chose to play with the activity. Results showed that 83% of the participants who chose to use the art easel were female compared to 17% who were male; 94% of the participants who chose to create art projects were female compared to 6% who were male; 67% of the participants who chose to play in the housekeeping center were female compared to 33% who were male; 83% of the participants who chose to play in the housekeeping category of girl dress-up were female compared to 17% who were male; 86% of the participants who chose to play in the housekeeping category of playing with dolls were female compared to 14% who were male; and 62% of the participants who chose to play in the housekeeping category of cooking were female compared to 38% who were male. Further, in the three choice activities determined to be neutral, the percentage of female participants who chose to play with each activity was relatively

similar to the percentage of male participants who chose to play with each activity; 58% of the participants who chose to play with the listening center were female and 42% were male, 57% of the participants who chose to play in the library were female and 43% were male, and 52% of the participants who chose to play in the sand table were female and 48% were male. (See Table 2)

Similar results to support the experiment's hypothesis were also found in analyzing the interview data. Out of the five activities determined to be traditionally male, four were chosen to be a favorite activity for at least one participant. Out of these four activities, three were identified to be a favorite activity for more males than females; three males identified blocks as being a favorite activity compared to zero females; one male identified playing with Legos as being a favorite activity compared to zero females; and one male identified playing in the housekeeping category of boy dress-up as being a favorite activity compared to zero females. The inconsistent result showed that one female identified playing with the computers as being a favorite activity compared to zero males. Out of the six activities determined to be traditionally female, three were chosen to be a favorite activity for at least one participant. Out of these three activities, all were identified to be a favorite activity for more females than males; four females identified the general category of housekeeping as being a favorite activity compared to two males; one female identified the housekeeping category of playing with dolls as being a favorite activity compared to zero males; and three females identified the housekeeping category of cooking as being a favorite activity compared to one male. Out of the three activities determined to be neutral, two were chosen to be a favorite activity for at least one participant. Three females identified playing in the library as being a favorite activity compared to two males and three females identified playing in the sand table as a favorite activity compared to one male. (See Table 3)

Discussion

The results of this study supported the hypothesis that a greater percentage of male participants than female participants would opt to play in those choice activities that had been determined to be traditionally male; a greater percentage of female participants than male participants would opt to play in those choice activities that had been determined to be traditionally female; and similar percentages of males and females would opt to play in those choice activities that had been determined to be neutral. Findings to support the hypothesis were found in both the observation data and the interview results. The only real inconsistency occurred in the observation data for the computer and science table choice activities. However, factors have been identified that may have confounded the results in these particular choice activities. In regards to using the two computers, each student was assigned one day a week he/she could choose to use the computer if he/she wanted. Therefore, even if a child would have liked to choose to play on a computer, there was a large chance that he/she would not have been allowed to do so. Another factor that could have influenced the computer results was that there were more females in the class than males so females in general had a greater chance of using the computers. Concerning the science table, failure to support the hypothesis may have resulted from the fact that the science table was only available during choice time in two out of the eight formal observations. Therefore, the data collected for the science table may not have been representative of what would have been found had the science table been available during all eight observations.

The findings in this experiment were consistent with the previous research done on gender role behavior in children. Past research has shown that young children have developed schemas that guide their thoughts and behaviors in regard to gender appropriate toys and activities. This

previous research has shown that boys tend to prefer toys and activities that are considered to be more typically male and females tend to prefer toys and activities that are considered to be more typically female. As predicted, similar results were found in the present study.

However, the present study did have several limitations that need to be considered when interpreting results. One major limitation was that the number of female participants and the number of male participants were not the same. Therefore, results may have been skewed so that the data would be slightly higher for females than males in all choice activities. Because of this factor, the differences in the percentages between males and females may not be as large as suggested. Similarly, not all students participated in choice time during each observation or for the same amount of time as other students. Some participants had to finish academic assignments at the beginning of choice time before they were allowed to participate; others had to go to pull-out programs at the beginning of choice time so they arrived about half-way into choice time; and other students were simply absent from school on some observation days. Therefore, it was impossible to determine whether one gender had more opportunities to participate in choice time than the other gender had. If indeed one gender did have more opportunities to choose activities than the other gender had, it could be expected that results would be skewed so that the gender that had more opportunities would show larger than expected percentages.

Another limitation of this study that could have skewed results was that only a certain number of students were allowed to play in particular choice activities at one time. Two students at a time were allowed to play with Legos, use the computers, and use the art easels; three students at a time were allowed to play with the blocks, use the science table, play in housekeeping, and use the sand table; and four students at a time were allowed to use the listening center. If a

participant wanted to choose an activity that was already at maximum capacity, he/she would have had to choose another activity. Because the results of the experiment were mostly determined by simple observation, the study did not control for the discrepancy between participants' preferred choice activity and the one they ended up having to choose due to overcrowding. In an effort to control for this discrepancy, the experimenter included a self-report interview portion in the design of the study. The interview allowed participants to indicate what their favorite play activity was regardless of whether or not they were allowed to play with the activity at the time.

Additionally, the study did not take into consideration what happened in the choice centers after participants decided to go there. The experiment did not formally address what kinds of behaviors took place in choice centers and how these actions were related to traditional gender role behaviors. For example, the one male participant who chose to play with the girl dress-up materials, wore one beaded necklace on each arm and another around his neck. He then proceeded to lift his arms with the necklaces on them to pretend to be lifting weights. This example illustrates that traditionally male behaviors may have been taking place in the choice centers determined to be traditionally female and vice versa. Further, the study did not report on the length of time that each participant spent in each choice activity. The same emphasis was given in tallying the results if the participant spent one minute in the choice activity or if the participant spent the full 45 minutes in the choice activity.

The final major shortcoming of this experiment could be that it did not take into account a large or diverse enough sample. Since the experiment only took into consideration a small number of participants and since all the participants were students in the same classroom, the sample may not have been able to generalize to the population as a whole. The results may have

been different for different groups of children; this experiment only tested one subset of the general population. For example, the results may have been different for children who did not attend this particular school, for children who lived in different geographical areas, or for children who had different family experiences and cultural upbringings. Future research concerning this topic may include a larger and more diverse sample so that the results in the experiment can better generalize to the entire population.

Regardless of the limitations to the study, the experiment does strongly support the hypothesis that kindergarten children as young as five years old show gender stereotyped behaviors in their choice of play activities. The results of the experiment suggest that young children have already formed many of the gender role schemas that influence their thoughts and actions. The study implies that kindergarten children have developed a clear concept about what it means to be male and female and an attitude about the gender appropriateness of certain toys and activities. Unfortunately, this gender stereotypic thinking may influence their actions and limit their choices and interests.

The results of this study can have major implications especially for parents and teachers. Making parents and teachers aware of the issue in general is the first step to developing strategies to minimize the problem. The next crucial step is to help parents and teachers identify behaviors with which they subtly encourage gender stereotypic attitudes and behavior. Then parents and teachers can concentrate on curbing these detrimental behaviors and work towards responding to all children in the same way and providing equal opportunities for all children. It is difficult to change long established biases in regards to gender roles and stereotypes especially when they are mostly latent, and minimizing discriminatory behavior by parents and teachers does not have any effect on the possible biological determinants of gender role behavior. However, making

parents and teachers aware of the issue and how they can improve their behavior could help minimize the possible detrimental effects that their influence can have on children's developing gender role behaviors and stereotypes.

Besides including a larger and more diverse sample so that the results in the experiment can better generalize to the entire population, future research could focus on more specific ways that parents and teachers can discourage gender role behavior and stereotyping. Perhaps experiments can be conducted on strategies that reduce the development of gender stereotyping so that children do not experience a restricted range of activities in which they believe they can participate. Further, it would be interesting to study how children's development of gender role behaviors and stereotypes change over time. For example, it would have been intriguing to study if the kindergartners' choice of play activities changed from the beginning of kindergarten to the end of kindergarten as they become socialized in the school. Through this method, it might be possible to isolate specific time periods when children might be more sensitive to influences that effect their developing gender role behaviors and stereotypes. In addition, longitudinal studies could be conducted to determine if exhibiting traditional gender role behaviors early in life influences children's later academic and social functioning. Future experiments could improve on this particular study by noting what kinds of behaviors occur in the choice centers and how these actions relate to gender role behaviors, and the length of time that children spend in each choice activity.

In conclusion, the results of this experiment support the theory that children as young as five and six years old show traditional gender role behaviors in their choice of play activities. Therefore, children are influenced early on by gender stereotypes and have already developed gender role schemas to guide their thoughts and behaviors by the time they are in kindergarten.

Perhaps by learning more about how traditional gender role behaviors and stereotypes are formed, actions can be taken to reduce the development of these stereotypes. When this is accomplished, children will no longer feel they have a limited range of activities they can participate in and all children, male and female, will learn that they have the same potential for achieving success.

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Appendix

Description of Choice Activities

Computers: Two computers exist in the classroom for student use. The students are familiar with a few age appropriate programs. Each student is assigned one day a week he/she can use the computer during choice time if he/she wants.

Blocks: Wooden blocks are available for use. Three students are allowed in the block area at any one time.

Legos: A large basket of Legos is available for use. Two students are allowed to play with the Legos at any one time.

Science Center: Science materials such as prisms, magnets, and bug jars are placed on the science table. Three students are allowed to play around the science center at any one time.

Art Easel: Two art easels are set up in the classroom for painting. Usually three colors of paint are available.

Art Projects: Students are permitted to use paper, markers, crayons, scissors, and glue to create any kind of art project they want. There is no limit to the number of students who can be working on art projects at any one time.

Housekeeping: The housekeeping area is made up of several separate play sections. Three students are allowed to play in the housekeeping center at any one time.

Boy Dress-up: Clothing is available for the students to wear that implicates traditionally male roles, including fireman hats and construction hats.

Girl Dress-up: Clothing is available for the students to wear that implicates traditionally female roles, including dresses and beaded necklaces.

Playing with Dolls: Baby dolls, baby doll bottles, a cradle, and a baby carriage are available for students' play.

Cooking: A kitchen area is available in the housekeeping section. The kitchen contains a kitchen table, a plastic refrigerator and stove, pretend food, and pots and pans.

Listening Center: Two separate listening centers are available where students can listen to books on tape using headphones. Two students can listen at each listening center at any one time.

Library: The library consists of numerous books on varied topics. There is a couch and stuffed animals in the library area. There is no limit to the number of students allowed in the library at any one time.

Sand Table: Students can stand alongside the sand table and play in the sand using buckets, shovels, and small toys. Three students are allowed to play in the sand table at any one time.

Table 1: Number of Males and Females who Chose to Play with Activities

	CENTERS	# OF MALES	# OF FEMALES
TRADITIONALLY MALE	COMPUTER	5	12
	BLOCKS	7	3
	LEGOS	5	3
	SCIENCE	3	3
	HOUSEKEEPING:BOY DRESS-UP	4	0
TRADITIONALLY FEMALE	ART EASEL	1	5
	ART PROJECTS	1	15
	HOUSEKEEPING	6	12
	HOUSEKEEPING:GIRL DRESS-UP	1	5
	HOUSEKEEPING:DOLLS	1	6
	HOUSEKEEPING:COOKING	6	10
NEUTRAL	LISTENING	5	7
	LIBRARY	16	21
	SAND	19	21

Table 2: Percentages of Males and Females who Chose to Play with Activities

	CENTERS	# OF MALES	# OF FEMALES
TRADITIONALLY MALE	COMPUTER	29%	71%
	BLOCKS	70%	30%
	LEGOS	63%	37%
	SCIENCE	50%	50%
	HOUSEKEEPING:BOY DRESS-UP	100%	0%
TRADITIONALLY FEMALE	ART EASEL	17%	83%
	ART PROJECTS	6%	94%
	HOUSEKEEPING	33%	66%
	HOUSEKEEPING:GIRL DRESS-UP	17%	83%
	HOUSEKEEPING:DOLLS	14%	86%
	HOUSEKEEPING:COOKING	38%	62%
NEUTRAL	LISTENING	42%	58%
	LIBRARY	43%	57%
	SAND	48%	52%

Table 3: Number of Males and Females who Chose Activities as their Favorite

	CENTERS	# OF MALES	# OF FEMALES
TRADITIONALLY MALE	COMPUTER	0	1
	BLOCKS	3	0
	LEGOS	1	0
	SCIENCE	0	0
	HOUSEKEEPING:BOY DRESS-UP	1	0
TRADITIONALLY FEMALE	ART EASEL	0	0
	ART PROJECTS	0	0
	HOUSEKEEPING	2	4
	HOUSEKEEPING:GIRL DRESS-UP	0	0
	HOUSEKEEPING:DOLLS	0	1
	HOUSEKEEPING:COOKING	1	3
NEUTRAL	LISTENING	0	0
	LIBRARY	2	3
	SAND	1	3